



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

114

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,019	02/25/2002	Edward G. Tiedemann JR.	010475	8463
23696 7590 05/10/2007 QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121			EXAMINER HALIYUR, VENKATESH N	
			ART UNIT 2616	PAPER NUMBER
			NOTIFICATION DATE 05/10/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com
kscanla@qualcomm.com
nanm@qualcomm.com

Office Action Summary	Application No.	Applicant(s)	
	10/084,019	TIEDEMANN ET AL.	
	Examiner	Art Unit	
	Venkatesh Haliyur	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 8-19 is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on 02/28/2007 is sufficient to overcome the rejection of claims 1-19 based upon Ponnekanti reference communicated via office action of 11/29/2006. Therefore the rejection has been withdrawn. However upon further consideration a new ground(s) of rejection has been made in view of newly found references Bliss et al and DeMartin et al. Rejection follows.
2. Claim 1-19 are pending in the application.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Bliss et al [US Pat: 4,633,441].

Regarding claim 1, Bliss et al in the invention of "Link Quality Analyzer" disclosed a remote station apparatus (**Figs 1-4, Fig 11**) comprising: a quality measurement unit

Art Unit: 2616

(Fig 1, col 2, lines 50-67, col 3, lines 1-13) for iteratively (summed over selected portion of the spectrum) measuring link quality of a communication link (link under test, item 3 of Fig 1); a quality message processing unit (LQA signal generator, item 1 of Fig 1) for generating a quality message (signal tones) and differential indicators (frequency spread) based on the measured link quality (col 3, lines 14-30) and for generating a parity check (noise profile) corresponding to the quality message (col 3, lines 31-53); and a differential analyzer (LQA, item 5 of Fig 1) for determining changes in the measured link quality using the quality message and differential indicators (col 4, lines 14-64).

Regarding claims 2-3, Bliss et al disclosed that the link quality is measured as carrier to interference of a received signal (col 1, lines 44-63) and wherein the quality measurement unit generates a quality metric, and wherein the remote station applies a sector cover to the quality metric (col 1, lines 64-67, col 2, lines 1-17).

Regarding claims 4-6, Bliss et al disclosed in a wireless communication system (Figs 1-4, Fig 11), a method comprising: generating quality messages and differential indicators at a first frequency (LQA signal generator, item 1 of Fig 1), the quality messages (signal tones) and differential indicators (frequency spread) providing information on the quality of a communication link (col 2, lines 50-65); and generating a parity check (noise profile) for each of the quality messages and generating differential indicators (frequency spread) at a second frequency, the differential indicators indicating changes in the quality of the communication link, wherein the second frequency is greater than the first frequency (75 Hz separation between two signal

Art Unit: 2616

tones) and each quality message includes carrier to interference information of a received signal at a receiver (**col 3, lines 17-31**).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bliss et al [US Pat: 4,633,411] in view of DeMartin et al [US Pat: 6,421,527].

Regarding claim 7, Bliss et al in the invention of "Link Quality Analyzer" disclosed that LQA analyzer determines the differential indicators (**frequency spread**) by checking the error codes from the transmitted signal tones (**col 14, lines 33-55**) but fails to disclose that differential indicator is at least one bit. However, DeMartin et al in the invention of "System for Dynamic Adaptation of Data/Channel Coding in Wireless Communications" disclosed a method for sending channel measurement bit (**1Bit**) in a message (**item 21 of Fig 1**) containing the link quality information of a communication channel between a mobile station (**MS, item 11 of Fig 1**) and a base station (**BS, item 13 of Fig 1, lines 8-31**).

Art Unit: 2616

Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of sending link quality measurement bit in the link information message as taught by DeMartin et al in the system of Bliss et al to include at least one bit for the differential indicators in the link quality message. One is motivated as such in order to send as few bits in as possible for differential indicators in the link quality message to minimize the overhead in the message.

Allowable Subject Matter

8. Claims 8-19 allowed over prior art.

Response to Arguments

9. Applicant's arguments, see remarks, filed 02/28/2007, with respect to the rejection(s) of claim(s) 1-19 under 35 U.S.C 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Bliss et al and DeMartin et al.

Conclusion

Art Unit: 2616

10. Any inquiry concerning this communication or earlier communications should be directed to the attention to Venkatesh Haliyur whose phone number is 571-272-8616. The examiner can normally be reached on Monday-Friday from 9:00AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached @ (571)-272-7493. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571)-272-2600 or fax to 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

Venkatesh Haliyur

Patent Examiner

WH 05/02/07


WING CHAN
SUPERVISORY PATENT EXAMINER